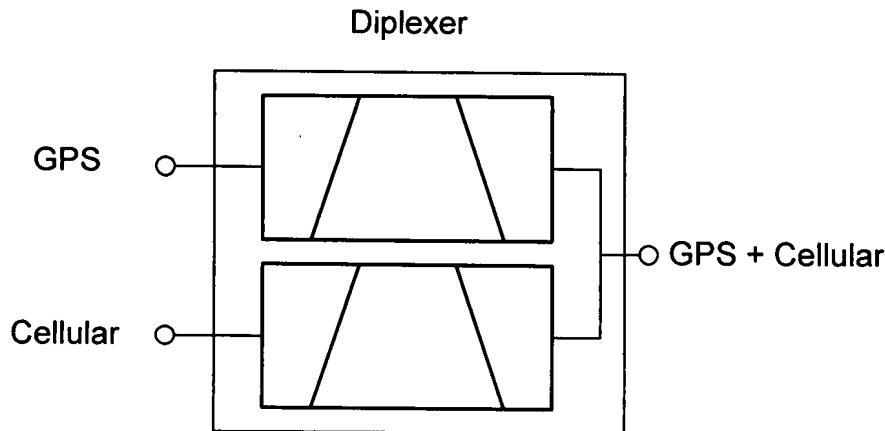


REMARKS

Claims 1-4, 8-10, 15 and 17 are pending in the above-referenced patent application. Claims 1-4, 8-10, 15 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ketonen (USPN 6,594,508) in view of Basile (USPN 6,298,243). Claims 1 and 8 have been amended to further clarify the claimed limitations. The rejections are traversed because the references, alone or in combination, do not disclose all of the limitations in each of the claims.

As per Claim 1, Basile explains that a diplexer 404 consists of two bandpass filters, which combine GPS and cellular traffic for transmission over a common coaxial cable 402 (col. 4, lines 19-21). However, the Office Action interprets Basile to teach receiving data signals multiple radiation elements and generating a single modulated signal that combines data signals, as claimed. Applicant respectfully disagrees. Basile does not teach modulation of received (or transmitted) signals to generate a single modulated signal. The diplexer 404 in Basile does not provide modulation of received (or transmitted) signals to generate a single modulated signal. A diplexer function in combining two or more different (cellular with GPS for example) radio frequency signals, does not teach modulation of received (or transmitted) signals to generate a single modulated signal.

As known by those skilled in the art, a diplexer is not a modulation device, and does not modulate one signal upon another. Rather, a diplexer is a filter based device that splits (or combines) a signal to two or more loads, depending on signal frequency, as shown by the example diagram below.



Often a diplexer is used to route signals, based on frequency, to or from two different antennas, which Basile explicitly states. A signal routing device, such as a diplexer, does not modulate one signal upon another. Hence, Applicants respectfully disagree with the Office Action in equating use of a diplexer in Basile, to a modulator which imposes a modulating signal, such as voice, video or data onto a carrier signal. A filter based diplexer (Basile) cannot be used as a modulator to combine GPS and cellular signals for transmission over a single cable. Basile does not teach receiving data signals from multiple radiation elements and generating a single modulated signal that combines data signals.

The Office Action has not addressed the following additional arguments presented by Applicants. The claimed invention utilizes a single modulated data signal which combines operating parameters from multiple radiating elements before sending said modulated data signal down to a base unit intelligent multiplexer via a single feeder cable. Unlike, Ketonen and Basile, the claimed invention does not require creation of a plurality of individual tuning signals.

Ketonen and Basile require plurality of individual tuning signals. In a combination of Ketonen and Basile, for every radiating element 210 in Ketonen (Figs. 3A-C and 4), a corresponding TX signal is generated in order to create forward power signal S1 and reflected power signal S2 (generated by forward power detector 404 and reverse power detector 406, Ketonen, Fig. 4 and Col. 6, lines 15-29). The difference between the two

signals (S1 and S2) is a tuning signal S3. The output of the voltage oscillator (VCTCXO or VCO) 410 is a frequency modulated carrier signal CW which is controlled by the voltage level of the return loss tuning signal S3 (Col. 6, lines 37-39). Thus, in order to generate a tuning signal, CW, that is indicative of return loss of the antenna 210, the transmit signal (TX) must be present. The signal CW is a level indication signal, which is a data signal that carries control information for a phase locked loop (PLL) 412 disposed in a cabinet 214. The output of the PLL 412 generates a recovery tuning signal S4 which tracks the return loss tuning signal S3, thereby restoring the return loss value determined in the return loss detector circuit 304 (Col. 6 line 63-65).

Further, even if the GPS antenna in Basile (which is not intended for transmission purposes), can be modified to transmit at some other frequency other than GPS (which applicant traverses), a combination of Ketonen and Basile still requires a second TX signal (e.g., TX2) to be present in order to create a second tuning signal CW-2 which corresponds to return loss of the second radiating element 210 in Ketonen.

Indeed, an introduction of a third radiating element with its corresponding third TX signal (e.g., TX3) would require creation of a third tuning signal CW-3. Additional radiating elements (1..n) would result in additional tuning CW-(n) signals. Therefore, each corresponding radiating element creates a corresponding tuning signal CW-(n) which is indicative of a return loss of a corresponding radiating element 210-(n) in Ketonen. As such, a plurality of tuning signals CW-(n) must be sent back to return loss recovery circuits 308(1..n) in Ketonen, and to the cable loss recovery circuits 310(1..n) via the feeder cable 206 (Ketonen Fig 2). Due to presence of a plurality of tuning signals CW-(n) in Ketonen equivalent plurality of return loss recovery circuits 308-(n) and cable loss recovery circuits 310(n) must be adapted to differentiate and extract corresponding tuning signals CW-(n) for each corresponding radiating element 210-(1..n) in Ketonen. As such, contrary to such requirements for multi-tuning signal CW-(n), multiple TX signals, the claimed invention does not require creation of a plurality of individual tuning signals, and instead utilizes a single modulated data signal which

combines operating parameters from multiple radiating elements before sending said modulated data signal down to a base unit via a feeder cable.

Not only the claimed invention does not require generation and management of a plurality of tuning signals CW-(n), but further the presence of such multiple signals in transmission line 206 in Ketonen teaches away from a combination of the references, and such a combination indeed teaches away from the claimed invention. Not only a combination of the references is non-functional and does not teach the claimed limitations, but one of ordinary skill in the art will not look to the references alone, or to combine them as suggested by the Examiner, to teach the claimed limitations. For at least these reasons, it is respectfully submitted that rejection of Claim 1 and all claims dependent therefrom, should be withdrawn.

Claims 2-4 depend from Claim 1, whereby for the above-mentioned reasons, Claims 2-4 are likewise allowable over the references. In addition, Claims 2-4 contain limitations that further add to the patentability of the claims over the references, alone or in combination. Rejection of Claims 8, 15 and 17 is respectfully traversed because for at least the reasons provided above in relation to Claim 1, the references, alone or in combination, do not disclose all of the claimed limitations in each claim. Claims 9 and 10 depend from Claim 8, and contain limitations that further add to the patentability of the claims over the references, alone and in combination.

CONCLUSION

For these reasons, and other reasons, Applicant believes that the application is in condition for allowance. Re-examination, reconsideration and allowance of all of the claims is respectfully requested.

If any additional fee or extension may be required for consideration of this amendment, such is hereby requested. Please charge any deficit or credit any surplus to Deposit Account No. 01-1960.

Respectfully submitted,



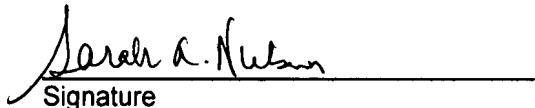
Date: Nov. 5, 2007

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, PO BOX 1450, Alexandria, VA 22313-1450, on: Nov. 5, 2007.

By: Sarah A. Nielsen



Sarah A. Nielsen
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